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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,381	09/12/2003	Robert Dubrow	40-002810US	6710

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EXAMINER
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MAYES, MELVIN C

ART UNIT	PAPER NUMBER
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1734

DATE MAILED: 05/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/661,381

Applicant(s)

DUBROW, ROBERT

Examiner

Melvin Curtis Mayes

Art Unit

1734

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) 3, 24, 39, 41 and 45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 8-23, 25-38, 40, 42-44, 46 and 51-56 is/are rejected.
- 7) ☒ Claim(s) 4-7 and 47-50 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

(1)

The claims are objected to because of the following informalities: they should read "van der Waals." Appropriate correction is required.

(2)

Claims 4-7 depend from withdrawn claim 3. Accordingly, the claims have not been further treated on the merits.

Claims 47-50 depend from withdrawn claim 45. Accordingly, the claims have not been further treated on the merits.

### ***Claim Rejections - 35 USC § 112***

(3)

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

(4)

Claims 40-56 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 40 and 43 recite the limitation "the second surface." There is insufficient antecedent basis for this limitation in the claims.

***Claim Rejections - 35 USC § 103***

(5)

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

(6)

Claims 1, 2, 8-23, 25-38, 40, 42-44, 46, and 51-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/40812.

WO 99/40812 discloses a method of micro-fastening comprising: attaching functionalized carbon nanotubes to first and second substrates; and joining the substrates by the nanotubes, the extending nanotubes becoming mechanically interconnected. The functionalized nanotubes are in a variety of non-linear forms such as hooks and loops and spirals. The substrates are formed of metals, carbon, silicone, germanium, polymers or composites thereof. Surface bonds based on the nanotubes, while extremely strong, may be re-opened and re-closed (entire document).

By joining substrates having attached functionalized carbon nanotubes of non-linear forms such as hooks and loops and spirals, at least a portion of nanofibers of a first surface or between surfaces obviously contact a second surface or second article on the side surface of the nanofibers and obviously create van der Waals forces and friction forces which adhere the articles, as claimed.

The surface density of nanofibers, density of contact points or percent contact area, as claimed, would depend on the desired amount of micro-fastening desired.

(7)

Claims 1, 2, 8-12, 22, 23, 25-38, 40, 42-44, 46 and 56 are rejected under 35 U.S.C. 103(a) as Lee et al. 2004/0098023.

Lee et al. disclose a method of implanting a vaso-occlusive device comprising: providing a device comprising polymer or metal core member and fibrous structure coupled on the core member; and inserting the device into a body cavity. The fibrous structure includes polymer nanofibers.

By inserting a vaso-occlusive device having a fibrous structure of polymer nanofibers in a body cavity, at least a portion of nanofibers of a first surface or between surfaces obviously contact a second surface or second article on the side surface of the nanofibers and obviously create van der Waals forces and friction forces which adhere the articles, as claimed.

### ***Response to Arguments***

(8)

Applicant's arguments filed January 18, 2005 have been fully considered but they are not persuasive.

Applicant argues that WO 99/40812 relies upon mechanical linking while the present inventions is directed to the use of nanofibers and contact with side surfaces of nanofibers to join through the resultant van der Waals forces.

(9)

Applicants arguments have been considered, however, the use of nanofibers in a variety of non-linear forms such as hooks and loops and spirals for connecting two substrates results in

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at least a portion of the nanofibers contacting the second surface or substrate on a side surface of the nanofibers and creates van der Waals and friction forces in addition to mechanical fastening. Van der Waals forces are merely intermolecular forces that act between molecules and would be present due to the presence of nanofibers.

***Conclusion***

(10)

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


(11)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvin Curtis Mayes whose telephone number is 571-272-1234. The examiner can normally be reached on Mon-Fri 7:30 AM - 4:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached on 571-272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Melvin Curtis Mayes  
Primary Examiner  
Art Unit 1734

MCM  
May 2, 2005